

## ABSTRACT

An autoprotected optical communication ring network includes a first and a second optical carrier (2, 3) having opposite transmission directions and a plurality of optically reconfigurable nodes (20a-20f) optically connected along the first and the second optical carrier (2, 3) and adapted to communicate in pairs by means of respective links susceptible of failure, the ring network having a normal operative condition in which the nodes of each pair are optically configured so as to exchange optical signals on a respective working arc path at a respective first wavelength ( $\lambda_x$ ) on the first carrier (2) and at a respective second wavelength ( $\lambda_y$ ) different from the first wavelength ( $\lambda_x$ ) on the second carrier (3), the respective working path having a complementary arc path defining a respective protection arc path in which the first wavelength ( $\lambda_x$ ) on the first carrier (2) and the second wavelength ( $\lambda_y$ ) on the second carrier (3) can be used for further links and the first wavelength ( $\lambda_x$ ) on the second carrier (2) and the second wavelength ( $\lambda_y$ ) on the first carrier (3) are reserved for protection, the ring network having also a failure operative condition in which the nodes terminating a failed link are optically reconfigured so as to exchange optical signals on the respective protection arc path at the respective second wavelength ( $\lambda_y$ ) on the first carrier (2) and at the respective first wavelength ( $\lambda_x$ ) on the second carrier (3).

Fig. 2